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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 1 of 5

Complete if Known

Application Number	09/990,769
Filing Date	November 21, 2001
First Named Inventor	Pierce
Group Art Unit	1653/1631
Examiner Name	Unknown
Attorney Docket Number	A-70365-2/RFT/RMS/RMK

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No. ¹	U.S. Patent Document		Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number	Kind Code ² (if known)			
AM	A1	4,939,666		Hardman, K.	07-1990	
	A2	5,241,470		Lee, C., and S. Subbiah	08-1993	
	A3	5,527,681		Holmes, C.	06-1996	
	A4	6,188,965		Mayo, et al.	02-2001	
	A5	6,269,312		Mayo, et al.	07-2001	
	A6	6,403,312		Dahiyat, et al.	06-2002	
	A7	01-0039480		Mayo, et al.	08-2001	
	A8	01-0032052		Mayo, et al.	10-2001	
	A9	02-0048772		Dahiyat, et al.	02-2001	
	A10	02-0090648		Dahiyat, et al.	08-2001	
	A11	02-0004706		Mayo, et al.	01-2002	
	A12	02-0106694		Mayo, et al.	08-2002	

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AM	B1	WO	95/22625			08-1995		
	B2	WO	98/32845			07-1998		
	B3	WO	98/47089			10-1998		
	B4	WO	00/23564			04-2000		
	B5	WO	00/68396			11-2000		
	B6	WO	01/59066			08-2001		

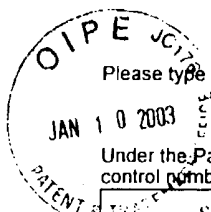
Examiner Signature	<i>Andin Manschof</i>	Date Considered	1-9-04
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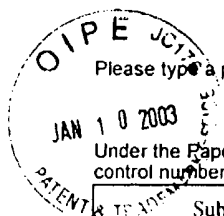
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Sheet	2	of	5	Attorney Docket Number	A-70365-2/RFT/RMS/RMK

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AM	C1	Betz S.F., et al., "Controlling topology and native-like behavior of de novo-designed peptides: design and characterization of antiparallel four-stranded coiled coils," <i>Biochemistry</i> 1996 May 28;35(21):6955-62.	
	C2	Borman, "Proteins to Order", Chemical and Engineering Newsletter (C&EN) Oct. 6, 1997, 9-10 (1997).	
	C3	Bowie, J.U., et al., "Deciphering the Message in Protein Sequences: Tolerance to Amino Acid Substitutions", <i>Science</i> vol. 247:1306-1310 (March 1990)	
	C4	Bowie, J.U., et al., "A Method to Identify Protein Sequences that Fold into a Known Three-Dimensional Structure", <i>Science</i> Vol. 253:164-170 (July 1991)	
	C5	Brenner et al., "A Quantitative methodology for the de novo design of proteins", <i>Protein Sci.</i> 3:1871-1882 (Oct. 1994)	
	C6	Brooks et al., "CHARMM: A Program for Macromolecular Energy, Minimization, and Dynamics Calculations," <i>J. of Computational Chemistry</i> , 4(2):187-217 (1983).	
	C7	Connolly, M.L., "Solvent-Accessible Surfaces of Protein and Nucleic Acids", <i>Science</i> Vol. 221 (4612):709-713 (Aug 1983)	
	C8	Cornell et al., "A Second Generation Force Field for the Simulation of Proteins, Nucleic Acids, and Organic Molecules", <i>J. Am. Chem. Soc.</i> , 117:5179-5197 (1995)	
	C9	Dahiyat, B.I., et al., "Automated design of the surface positions of protein helices", <i>Protein Science</i> 6:1333-1337 (June 1997)	
	C10	Dahiyat, B.I., et al., "Protein design automation," <i>Caltech Biology Annual Report</i> , 172 (1995)	
	C11	Dahiyat, B.I., et al., "Protein Design Automation," Meeting Abstract; <i>Protein Science</i> vol. 4, Suppl. 2, 83 (1995)	
	C12	Dahiyat, B.I., et al., "Protein Design Automation," Poster Sessions, <i>Protein Science</i> vol. 5, Suppl. 1, 2223 (1996)	
	C13	Dahiyat, B.I., et al., "De Novo Protein Design: Fully Automated Sequence Selection," <i>Science</i> , 278:82-87 (1997)	
	C14	Dahiyat, B.I., et al., "Probing the Role of Specificity in Protein Design," <i>Caltech Biology Annual Report</i> , 160-161 (1996)	
	C15	Dahiyat, B.I., et al., "Protein Design Automation," <i>Protein Science</i> vol. 5, 895-903 (1999)	
	C16	Dahiyat, B.I., et al., "First fully automatic design of a protein achieved by Caltech scientists", new press release (Oct. 1997)	
	C17	Dalal, S., et al., "Protein alchemy: Changing .beta.-sheet into .alpha.-helix", <i>Nature Struc. Biol.</i> Vol. 4(7): 548-552 (July 1997)	
✓	C18	DeGrado, W., "Proteins from Scratch," <i>Science</i> , 278:80-81 (1997)	

Examiner Signature	<i>Artem Maselet</i>	Date Considered	1-9-04
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Sheet	3	of	5	Attorney Docket Number	A-70365-2/RFT/RMS/RMK

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AM	C19	DeGrado et al. "Protein design, a minimalist approach" Science 1989 Feb 3;243(4891):622-8.	
	C20	Desjarlais, J.R., et al., "De novo design of the hydrophobic cores of proteins", Protein Science 4:2006-2018 (1995)	
	C21	Desjarlais, J.R., et al., "New strategies in protein design," Current Opinion in Biotechnology 460-466 (1995)	
	C22	Desmet, J., et al., "The Dead End Elimination' Theorem: A New Approach to the Side Chain Packing Protein", from "The Protein Folding Problem and Tertiary Structure Prediction" Ch.10: 1-49 (1994).	
	C23	Desmet, J., et al., "The dead-end elimination theorem and its use in protein side-chain positioning", Nature vol.356:539-542 (Apr. 1992)	
	C24	Desmet et al., "Theoretical and Algorithmical Optimization of the Dead-End Elimination Theorem," Proceedings of the Pacific Symposium on Biocomputing '97, 122-133 (1997)	
	C25	Dunbrack Jr., R.L., et al., "Conformational analysis of the backbone-dependent rotamer preferences of protein sidechains", Struc. Biol. Vol.1(5):334-340 (May 1994)	
	C26	Eisenberg, D., et al., "Solvation energy in protein folding and binding", Nature vol. 319:199-203 (Jan. 1986)	
	C27	Gallop et al., "Applications of Combinatorial Technologies to Drug Discovery. 1. Background and Peptide Combinatorial Libraries," J Med Chem 37(9): 1233:1251 (April 1994)	
	C28	Goldstein, R.F., "Efficient Rotamer Elimination Applied to Protein Side-Chains and Related Spin Glasses", Biophys. Jour. Vol.66:1335-1340 (May 1994)	
	C29	Gordon et al. "Energy functions for protein design," Curr Opinion in Struct. Biol., 9:509-513 (1999)	
	C30	Gordon A, et al., "Radical performance enhancements for combinatorial optimization algorithm based on the dead-end elimination theorem", Journal of Computational Chemistry, 19:1505-1514 (1998)	
	C31	Handel et al., "Metal ion-dependent modulation of the dynamics of a designed protein," Science 1993 Aug 13;261(5123):879-85.	
	C32	Harbury et al., "Repacking protein cores with backbone freedom: Structure prediction for coiled coils," Proc. Natl. Acad. Sci. USA, 92:8408-8412 (1995)	
	C33	Harbury et al., "High-Resolution Protein Design with Backbone Freedom," Science, 282:1462-1467 (1998)	
	C34	Hecht et al. "De novo design, expression, and characterization of Felix: a four-helix bundle protein of native-like sequence" Science 1990 Aug 24;249(4971):884-91.	
	C35	Hellings, H.W., et al., "Construction of New Ligand Binding Site in Proteins of Known Structure", J. Mol. Biol. 222:763-785 (1991)	
	C36	Hellings, H.W., et al., "Rational protein design: Combining theory and experiment", Proc. Natl. Acad. Sci. USA vol.94:10015-10017 (Sep. 1997)	
	C37	Hellings, H.W., et al., "Optimal sequence selection in proteins of known structure by simulated evolution", Proc. Natl. Acad. Sci., USA vol.91:5803-5807 (June 1994)	
	C38	Holmes, "First-ever designer protein fits like a glove," New Scientist, IPC Magazines Limited, Oct. 11, 1997	
✓	C39	Hurley et al., "Design and Structural Analysis of Alternative Hydrophobic Core Packing Arrangements in Bacteriophage T4 Lysozyme," J. Mol. Biol., 224:1143-1159(1992)	

Examiner Signature	Andin Morales	Date Considered	1-9-04
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Sheet 4 of 5

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Application Number	09/990,769
Filing Date	November 21, 2001
First Named Inventor	Pierce
Group Art Unit	1893 1631
Examiner Name	Unknown
Attorney Docket Number	A-70365-2/RFT/RMS/RMK

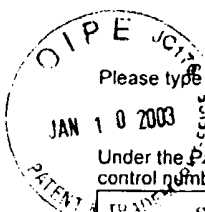
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AM	C40	Jones, D.T., "De novo protein design using pairwise potentials and a genetic algorithm", Protein Science 3:567-574 (1994)	
	C41	Kamtekar S., et al. "Protein design by binary patterning of polar and nonpolar amino acids" Science 1993 Dec 10;262(5140):1680-5.	
	C42	Klemba M., et al. "Novel metal-binding proteins by design," Nat Struct Biol. 1995 May;2(5):368-73.	
	C43	Koehl et al., "De Novo Protein Design, I. In Search of Stability and Specificity," J. Mol. Biol., 293:1161-1181 (1999).	
	C44	Kono et al., "Energy Minimization Method Using Automata Network for Sequence and Side-Chain Conformation Prediction from Given Backbone Geometry," Proteins: Structure, Function and Genetics, 19:244-255 (1994)	
	C45	Kortemme et al., "Design of a 20-Amino Acid, Three-Stranded β -Sheet Protein," Science, 281:253-256 (1988)	
	C46	Lam et al., "Application of combinatorial library methods in cancer research and drug discovery," Anti-Cancer Drug Design 12:145-167 (1997)	
	C47	Lasters et al., "Enhanced dead-end elimination in the search for the global minimum energy conformation of a collection of protein side chains," 1995, Protein Engineering, vol. 8, No. 8, pp. 815-822	
	C48	Lasters, I., et al., "Dead-End Based Modeling Tools to Explore the Sequence Space that is Compatible with a Given Scaffold", Jour. of Protein Chem. vol.16(5):449-452 (July 1997)	
	C49	Lazar et al., "De novo design of the hydrophobic core of ubiquitin," Protein Science 6 1167-1178 (1997)	
	C50	Lee et al., "Accurate prediction of the stability and activity effects of site-directed mutagenesis on a protein core," Nature, 352:448-451 (1991)	
	C51	Lim et al., "The crystal structure of a mutant protein with altered but improved hydrophobic core packaging," Proc Natl Acad Sci USA 1994 Jan 4;91(1):423-7	
	C51A	Looger L.L., and H.W. Hellinga, "Generalized Dead-end Elimination Algorithms Make Large-scale Protein Side-chain Structure Prediction Tractable: Implications for Protein Design and Structural Genomics." J Mol Biol. 2001 Mar 16;307(1):429-45.	
	C52	Mayo et al., "DREIDING: A Generic Force Field for Molecular Simulations," J. Phys. Chem., 94:8897-8909 (1990)	
	C53	Minor, Jr. D.L., "Measurement of the .beta.-sheet-forming propensities of amino acids", Nature vol. 367:660-663 (Feb. 1994)	
	C54	Munoz, V., et al., "Helix design, prediction and stability", Curr. Opin. in Biotech. 6:382-386 (Aug. 1995)	
	C55	Munoz, V., et al., "Intrinsic Secondary Structure Propensities of the Amino Acids, Using Statistical phi-psi Matrices: Comparison with Experimental Scales", Proteins 20:301-311 (1994)	
	C56	Munoz, V., et al., "Analysis of the effect of local interactions on protein stability", Folding & Design 1(13):167-178 (April 1996)	
	C57	Nautiyal S, et al., "A designed heterotrimeric coiled coil," Biochemistry 1995 Sep 19;34(37):11645-51.	
	C58	Pabo, C., "Designing proteins and peptides", Nature vol. 301:200 (Jan 1983)	
	C59	Padmanabhan, S., et al., "Relative helix-forming tendencies of nonpolar amino acids", Nature vol. 344:268-270 (March 1990)	

Examiner Signature	<i>Adam Mancoske</i>	Date Considered	1-9-04
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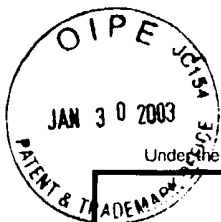
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AM	C60	Pessi A., et al. "A designed metal-binding protein with a novel fold" Nature 1993 Mar 25;362(6418):367-9.	
	C61	Pomerantz et al. "Structure-based design of transcription factors" Science 1995 Jan 6;267(5194):93-6.	
	C62	Ponder, J.W., et al., "Use of Packing Criteria in the Enumeration of Allowed Sequences for Different Structural Classes", release by Acad. Press Inc. (London) Ltd. pp. 775-791 (1987)	
	C63	Quinn et al., "Betadoublet: de novo design, synthesis, and characterization of a beta-sandwich protein" Proc Natl Acad Sci U S A. 1994 Sep 13;91(19):8747-51.	
	C64	Rappe et al., "Charge Equilibration for Molecular Dynamics Simulations," J. Phys. Chem., 95:3358-3363 (1991)	
	C65	Regan L, et al., "Characterization of a helical protein designed from first principles," Science 1988 Aug 19;241(4868):976-8.	
	C66	Regan, L., "Helix is a helix is a helix?", Proc. Natl. Acad. Sci. USA vol. 94:2796-2794 (April 1997)	
	C67	Smith, C.K., et al., "Guidelines for Protein Design: The Energetics of .beta. Sheet Side Chain Interactions", Science Vol. 270: 980-982 (Nov. 1995)	
	C68	Stickle et al., "Hydrogen Bonding in Globular Proteins," (1992) Journal of Molecular Biology, vol. 226, pp. 1143-1159	
	C69	Street A.G., et al., "Pairwise calculation of protein solvent-accessible surface areas", Fold Des. 1998;3(4):253-8.	
	C70	Sun, S., et al., "Designing amino acid sequences to fold with good hydrophobic cores", Protein Eng. vol.8(12): 1205-1213 (1995)	
	C71	Tuffrey et al., "A New Approach to the Rapid Determination of Protein Side Chain Conformations," J. of Biomolecular Struct. & Dynamics, 8(6): 1267-1289 (1991)	
	C72	van Gunsteren et al., "Prediction of the Activity and Stability Effects of Site-directed Mutagenesis on a Protein Core," J. Mol. Biol., 227:389-395 (1992)	
	C73	Villegas et al., "Stabilization of proteins by rational design of alpha.-helix stability using helix/coil transition theory," Folding & Design, 1(1):29-34 (1995)	
	C74	Wesson et al., "Atomic solvation parameters applied to molecular dynamics of proteins in solution," Protein Science, 1:227-235 (1992)	
	C75	Wilson, C., et al., "Computational Method for the Design of Enzymes with Altered Substrate Specificity", J. Mol. Biol. (1991) 220, 495-506	
	C76	Wodak, S.J., et al., "Analytical approximation to the accessible surface area of proteins", Proc. Natl. Acad. Sci. USA vol. 77(4):1736-1740 (Apr. 1980)	

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SM	C1	GORDON, DB and MAYO, SL, "Branch-and-Terminate: a combinatorial optimization algorithm for protein design," Structure 7(9):1089-1097 (1999)	
	C2	LEACH, AR and LEMON, AP, "Exploring the Conformational Space of Protein Side Chains Using Dead-End Elimination and the A* Algorithm," Proteins: Structure Function and Genetics 33:227-239 (1998)	
	C3	PIERCE, NA, et al., "Conformational Splitting: A More Powerful Criterion for Dead-End Elimination," J Comp. Chem. 21(11):999-1009 (2000)	
	C4	WERNISCH, L et al., "Automatic Protein Design with All Atom Force-fields by Exact and Heuristic Optimization," J. Mol. Biol. 301:713-736 (2000)	
	C5		

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